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the civic clubs find the general public apathetic toward their endeavors.

Public libraries and suitable sites for recreation grounds are a nurse's business, just as important in their way as is the bedside care of the sick, and the nurse should join with the mothers and housekeepers in obtaining them. The nursing profession has already worked wonders in the world, and it is up to the returned nurses to join with those who worked at home to extend that good influence through the next decade, and "carry on" in united efforts and ambitions.

WHAT A NURSE SHOULD KNOW ABOUT SYPHILIS

By Herman Goodman, B.S., M.D.

(*Continued from page 202*)

SETTING UP FOR SALVARSAN

"Salvarsan at nine to-morrow, Miss N. We will use the Arsenobenzol from Philadelphia. Please prepare Mrs. Smith, Mr. Jones, and Master Jenkins. I will also have an outside case for 'Neo,'" and with a pleasant smile, the doctor was gone.

Miss N. is on duty in a small hospital, and as she is rather proficient, let us follow her, as step by step, she fulfills her task "better than which can no man."

Step one. She calls up the pharmacy. "Mr. Pharmacist, Dr. Ward will give salvarsan to-morrow morning. I am sending over a sterile Erlenmeyer flask. Will you distil a liter of water and have it boiled and cooled by 8:30 a. m.? Yes, absolutely freshly distilled, it is to go into the blood, you know, and make up a 15 per cent. solution of sodium hydroxide. We wish about 15 c.c. Please use our regular glass stoppered bottle, so that the solution will not get brown from a cork. Thank you."

Step two. She calls up the kitchen. "This is Miss N. speaking. Will you please send up three suppers without any meat? And to-morrow there will be no need for three breakfasts or lunches but there will be three light suppers. Dr. Ward is giving some special treatments. You will get the written order from him. You will remember, anyway? That is nice."

Step three. At the instrument case, Miss N. checks her list labeled, "Needed for salvarsan." 1. Mixing cylinder with glass stopper; 2. Gravity tube, rubber tubing, pinch cock, and needle connection; 3. Glass funnel; 4. Glass dropper, rubber bulb; 5. 250 c.c. Erlenmeyer flask; 6. File; 7. Needles (Fordyce); 8.2 c.c. hypodermic syringe, and needles.

Miss N. opens the Neosalvarsan set and checks: 1. 50 c.c. glass beaker; 2. 30 c.c. all glass Luer syringes, with about six inches of rubber tubing having a female connection to fit the syringe, and a male connection to fit the needle; 3. Glass rod, about eight inches long; 4. Needle (Fordyce).

All the instruments are examined. None of the glassware is found cracked. The points of the needles are sharp; and the stylets pass through readily. The glass stopper fits the cylinder. The rubber tubing is free from holes.

In the morning, Miss N. will wash all the instruments with soap and water, rinse thoroughly with filtered water, wrap each in a towel, and sterilize by boiling in filtered water.

Step four. The three patients are given their supper which is meat free. At night, each is given a dose of castor oil. Before going off duty, Miss N. reminds them not to take any breakfast. The night nurse is told to send a sample of early morning urine to the laboratory for immediate examination and to take the weight of each patient.

Step five. Miss N. is at work in the operating room. She has set out a package of sterile hand towels, a package of sterile gauze wipes, a small basin, a bottle of alcohol, four test tubes with corks, and labels, a tourniquet, a tube of adrenaline hypodermic tablets, and a bottle of collodion.

The sterilizer is humming merrily.

The operating table is flat. There is no pillow. There is a square of rubber sheeting about the middle where the arms will rest.

On a side table is the liter of freshly distilled water, the solution of sodium hydroxide, and heater (alcohol or electric). The table is covered with a sterile towel and Miss N. is already transferring the contents of the sterilizer to the table.

Dr. Ward comes in, nods his approval, and passes to the wash room. Presently he returns, arms and hands scrubbed, and wearing his white gown.

Miss N. watches as the doctor skillfully goes through each move from immersing the ampoules in alcohol (to see if they are intact) to the addition of the last drop of alkali. There is nothing she can do, for everything has been prepared and the making of solutions of salvarsan is a one man's job.

The salvarsan ampoules are taken from their wrappers and put into a dish of alcohol. Air-tight tubes float, but tubes that are defective sink, or the alcohol reaches the inside and moistens the powder. Only tubes that float should be used. The tubes are dried with sterile gauze, as is the alcohol sterilized file. The ampoule is readily opened by stretching the neck with the file and smartly tapping the far end. The powder is then dropped into the mixing cylinder. Water is now added to the powder, using approximately five c.c. to the decigram. For ease in bringing on solution of Philadelphia Arsenobenzol, this water should be bubbling hot. Shaking for a minute is all that is necessary to bring about solution. Sodium hydroxide is now added to solutions of salvarsan, diarsenol and arsenobenzol, we shake after the addition of each few drops of the alkali and continue to add until the precipitate which is first formed is redissolved. The final neutral solution is absolutely clear. It is not essential to test with litmus.

We ordinarily use for injection 20 c.c. of sterile water to the decigram. Exceptionally, we have given salvarsan concentrated to ten c.c. to the decigram as a time saving measure in a dispensary. For the injection proper, we take a single gravity tube of 250 c.c., nozzle tip at the bottom, and rubber tubing about five feet long. The entire apparatus is suspended about two feet above the level of the vein into which the needle is to be introduced. Water is first run through the gravity tube to displace all the air. The salvarsan solution is filtered through wet gauze from the mixing cylinder to the gravity tube. If dry gauze is used, it is very possible that a few loose ravelings from its surface may be washed into the filtrate. The solution should not vary much either above or below blood heat.

The doctor signals "ready," and Mrs. Smith comes in and as she gets on the table, hands the doctor her chart with urine analysis and weight. She is free from all constrictions, such as corset, or collar. Her left arm is bared to the shoulder, and the region of the antecubital fossa is cleaned with an alcohol soaked sponge. The tourniquet is arranged with a slip knot, and Dr. Ward skillfully introduces the needle, draws some blood into a test tube, which he hands to Miss N., loosens the tourniquet, and connects the salvarsan tubing. When he has allowed the proper dose to run in, he withdraws the needle, and presses over the puncture a fresh piece of sterile gauze which effectually stops the bleeding. Before she leaves the room, Mrs. Smith has a drop of collodion put over the puncture, and then proceeds to bed where she remains for four hours.

Smoothly the other two patients are injected. Then the doctor calls in his fourth case, busies himself with the preparation of the "914" which is: to measure 30 c.c. of cooled freshly distilled water into the beaker, empty the Neosalvarsan into the water and stir for a moment with the glass rod. He draws the solution back into the syringe, and the rubber tubing gives a mobile point to the needle instead of a stiff one. The Neosalvarsan is injected immediately.

Miss N., as soon as the room is empty, rinses all the glassware, cleans it with soap and water, sterilizes it all and, after drying, puts it back into the instrument case.

While she is at work, Dr. Ward comes through the room. "Quite lucky to-day, Miss N., not one had a reaction and we did not need that adrenaline you prepared. Remember, plenty of water for those patients, tea and toast in about four hours, and a light supper to-night. Call me up if anything happens, which I doubt. Good morning."